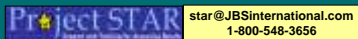


# Beginning with the End in Mind: Data Collection and Analysis

2011 ServeSymposium  
February 16, 2011



<http://nationalservice.gov/resources>  
Search: *project star*

## Learning Objectives



1. Understand Performance Measurement
2. Review reporting goals and strategies
3. Review and master PM basics: terminology (outputs, outcomes, etc.), steps & logic model, and alignment
4. Understand key considerations in instrument creation and selection
5. Review and practice data collection and data analysis techniques
6. Identify "next steps" and resources

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## What is Performance Measurement?

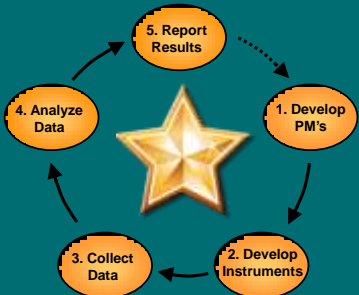
The process of...

- ★ Tracking the amount of work done by the program (outputs) and the impact of this work on beneficiaries (outcomes)
- ★ Collecting and analyzing data to assess progress towards achieving program objectives
- ★ Using results to improve program



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## Five Steps of Performance Measurement



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## Why we measure performance

- ★ Clarify purpose of program
- ★ Improve understanding of how activities contribute to desired results
- ★ Document actual results of program activities
- ★ Strengthen case for funding and community support
- ★ Improve program performance



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## Beginning with the End Why Reporting Matters

- ★ Documents actual accomplishments
- ★ Enhances accountability to stakeholders
- ★ Makes case for continued funding and community support
- ★ Clarifies how program activities contribute to achieving results—tells your story!
- ★ Provides useful information for program improvement



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Reporting Tips

- ★ Preparing for the report
  - Keep all info needed for report together and accessible (maintain security)
  - Set aside time to work on report – put it on your calendar
- ★ Writing the report
  - Don't leave anything blank
  - Include numbers and concrete details
  - Report return rates for surveys & assessments
  - Ask someone to review report draft



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Reporting Tips (cont'd)

- ★ Use results to
  - Improve your program
  - Build stakeholder support by sharing results with them
  - Leverage additional funding by including in grant applications



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Interim Reports

- ★ Never say “nothing to report”
- ★ Report service activities conducted to date
- ★ Describe data collection efforts to date
- ★ Describe any challenges and how you are addressing them
- ★ Report pretest results
- ★ Indicate when other results will be available
- ★ Indicate if on track to meet targets



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Strong PM Reporting

- ★ Starts with clear, concise PMs
- ★ Keep reporting aligned with PMs
- ★ Summarize actual activities
- ★ Describe how data were collected, number of beneficiaries served and measured
- ★ State if target was met; explain any shortfall
- ★ Report number and percent for outcomes
- ★ Provide enough information for reader to understand what happened



Describe/explain significant changes

Data Analysis and Reporting

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Reporting Example for Youth Mentoring

Actual Service Activity	<p><i>Briefly describe activities conducted. Note any significant differences from activities as originally planned.</i></p> <p>15 AmeriCorps members (mentors) met with 3 to 4 assigned youth at least 3 hours/week. Mentoring included one-on-one and small group activities. Mentors engaged youth in physical and cultural activities, and assisted with homework as needed. Mentoring promoted youth self-image by building personal relationships with youth and providing counseling to deal with a variety of problems. Most mentoring happened after school, either on school grounds, at youths' homes, or in public places such as libraries, parks and museums.</p> <p>55 youth started in the mentoring program. Five youth who dropped out before completing 10 weeks of mentoring were not counted towards outputs and outcome.</p>
Anticipated Result	Output: [...]

Data Analysis and Reporting

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Anticipated Result	Intermediate outcome: Youth will develop improved self-image (youth does not identify with negative personality traits, reports increased self-confidence, etc).
Target	75 percent of mentored youth will improve self-image as demonstrated by 6-point increase on Youth Pre/Post Survey by end of school year.
Instrument Used	Youth Pre/Post Survey, which includes 10 items assessing youth self-image
Actual Procedures	AmeriCorps program staff administered Youth Survey (pretest) to each youth after he or she was matched with mentor but prior to first meeting with mentor. Program staff administered posttest to each youth 10-15 weeks after mentoring began. Data were collected as planned. Pre/post surveys were completed by 50 mentored youths.
Actual Results	By end of school year, 40 of 50 mentored youth (80 percent) experienced meaningful gains in self-image, as demonstrated by increase of at least six points (15 percent gain) from pretest to posttest.
Target Met?	Yes, target was exceeded. More than 75 percent of mentored youth experienced 6-point increase from pretest to posttest.
Additional Comments	Schools played an important role in supporting mentors and assisting program staff to collect outcome. Teachers assisted program staff to administer Youth Survey and get completed forms back to program.

### Back to the Beginning Performance Measurement Results

★ **Outputs**



★ **Intermediate outcomes:**



★ **End outcomes**



Performance Measures & Logic Model

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### Results: Measurement Details

- ★ Output, intermediate outcome include:
  - Indicator
  - Target
  - Instrument
- ★ These measurement details are important for reporting
- ★ More on this in subsequent training

Performance Measures & Logic Model

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### Results Example Youth Mentoring



Output → Intermediate Outcome → End Outcome

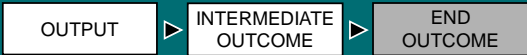
Output

Indicator: Number of youth participating in mentoring annually  
Target: \$00 youth will participate in mentoring annually  
Instrument: Mentoring Skills pre-post survey

Performance Measures & Logic Model

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### Aligned Performance Measures



- ★ All results address:
  - Same service activity
  - Same group of beneficiaries or service recipients.
- ★ Logical flow from one result to the next

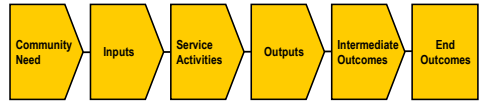
Performance Measures & Logic Model

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### Basic Logic Model

"A picture of how your program works"

Communicates essential features of program to stakeholders.



Assists with  
**Program Planning**

Clarifies  
**Intended Results**

Helps align intended results with program planning elements.

Performance Measures & Logic Model

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### Logic Model Supports Results-Focused Program Management

- ★ Logic model
  - Can take into account broader aspects of organization and management
  - Highlights how all elements address community need and support end outcome
- ★ Successful programs
  - Clearly understanding their intended community impact AND
  - Focus all aspects of organization and management on achieving community impact



Performance Measures & Logic Model

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Q & A



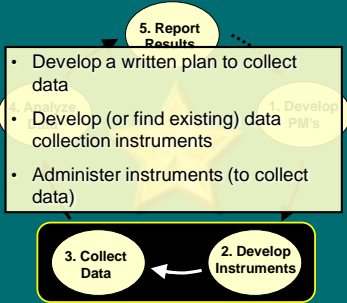
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PM and Instrument Alignment

Instructions

1. Individual. Read worksheet and instrument
2. Pairs. Discuss the questions

PM Steps



Instruments & Data Collection

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Data & Data Source

Key Terms

- ★ **Data:** Evidence showing service was completed (output) or anticipated change occurred (outcome)
- ★ **Data Source:** Person or place that provides the data ("Who has the information?")
  - **Data from existing source:** Obtain from organizations that already collect the data (e.g. attendance, test scores from school records)
  - **Program-generated data:** Obtain by administering your own instrument (e.g. financial knowledge assessed via curriculum-based test)

Instruments & Data Collection

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Indicator & Target

Key Terms

- ★ **Indicator:** Concrete, measurable evidence demonstrating result occurred
- ★ **Target:** Quantitative level of success
  - What will change (with reference to indicator)
  - How many will change (number/percent)
  - By how much (Is any change enough?)
  - By when (in one year)
- ★ **Outcome** **Target** example: 80 Percent of mentored youth **will** demonstrate a 25 percent increase in resistance skills in one year from pretest to posttest.

Instruments & Data Collection

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Data Collection Methods

Key Terms

- ★ Specific means and procedures to measure performance
- ★ Common methods:
  - Tally participation via log or tally sheet
  - Obtain data from other agency
  - Administer survey
  - Administer assessment
  - Conduct interview
- ★ Consider data source and type of change you will measure (knowledge, attitudes, behavior, conditions)

Instruments & Data Collection

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### Instrument

Key Terms

- ★ Specific tool used to collect information to measure results
- ★ Examples of instruments
  - *Volunteer Recruitment Log*
  - *New Homeowner Survey*
  - *Health Status Pre-Post Interview*

Instruments & Data Collection

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### Developing a plan to collect data

- ★ Written plan provides framework for implementing performance measurement:
  - Data to collect (and from who)
  - When to collect data
  - Instruments to use
  - Who will administer instruments
  - How instruments will be returned
- ★ Develop with input from key stakeholders, establish consensus
- ★ Remind everyone about timelines



Instruments & Data Collection

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### Selecting Instruments



1. Identify type of information needed (data) and where to find (data source)
2. Choose an appropriate method
3. Decide if instrument already exists or needs to be created
4. Test instrument under "field conditions"

Check out Project STAR's many samples!  
[www.nationalservice.gov/resources](http://www.nationalservice.gov/resources)  
(Search: Project STAR)

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### Developing Instruments

- ★ Use attractive layout and formatting
- ★ Include instructions to complete and return
- ★ Ask only what's needed
- ★ Keep instruments short (1-2 pages)
- ★ Question wording
  - Speak respondent's language
  - Avoid biased language and "double-barreled" questions

Example:  
"Is this training interesting and useful?"

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### Developing Instruments (cont'd)

- ★ Consider using web-based instruments (SurveyMonkey, Zoomerang, etc)
- ★ Use scaled items to measure target
  - Yes/No, 5-point Likert, etc.
  - Improve reliability/validity by using multiple scaled items to measure same indicator
- ★ Include open-ended questions to collect qualitative data



Instruments & Data Collection

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### Sample Mentoring Instrument

Outcome: Mentored youth develop positive attitude toward their future.

Please check the response <input type="checkbox"/> that best describes this youth, as you currently know him/her.	Very much like youth	Mostly like youth	Some-what like youth	A little like youth	Not at all like youth
This youth...					
1. Enjoys talking about her future after finishing high school.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Talks about the things she can do well.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Takes steps toward achieving his goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Tries to learn how to improve from his mistakes or when he does not do well.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Instruments & Data Collection

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Don't forget the target!



Whether you develop your own instrument from scratch or select one “off the shelf”, make sure data obtained from the instrument addresses your PM target!

Performance Measurement Steps



Analyzing Data = Summarizing Results

- ★ “What actually happened as result of AmeriCorps service?”
  - **Outputs:** How much service was delivered? How many people were served?
  - **Outcomes:** How many people experienced meaningful benefits from service?
- ★ Data are quantitative (numbers) and qualitative (text)
- ★ Data to address targets must be quantitative



Types of Data Analysis

Number of people who answered each question	Count
How many people answered “a,” “b,” or “c”	Frequency
Percentage of people answered “a,” “b,” or “c”	Percent Distribution
Average score	Mean
Change in score from a pre-test to a post-test	Change in Scores
Open-ended questions	Content Analysis

Analysis Step: Code Data

- ★ Lay aside incomplete instruments
- ★ Determine coding scheme for each question
- ★ Scaled questions – assign numeric value to each response option

No	<input type="checkbox"/>	Yes	<input type="checkbox"/>
Poor	<input type="checkbox"/>	Fair	<input type="checkbox"/>
Good	<input type="checkbox"/>	Excellent	<input type="checkbox"/>
Strongly Agree	<input type="checkbox"/>	Agree	<input type="checkbox"/>
Disagree	<input type="checkbox"/>	Strongly Disagree	<input type="checkbox"/>
Too Short	<input type="checkbox"/>	Short	<input type="checkbox"/>
Just Right	<input type="checkbox"/>	Long	<input type="checkbox"/>
Too Long	<input type="checkbox"/>		<input type="checkbox"/>

Analysis Step: Tally Data

- ★ By hand
  - Use blank instrument (as tally sheet) and calculator
  - Best for small datasets and one-time analysis
- ★ By computer
  - Use spreadsheet, database or stats package
  - Easy to sort and group data
  - Can create charts and graphs
  - Best for large datasets and repeated analysis



Sample Spreadsheet

One respondent per row


1 = "Yes"  
2 = "No"

One response item per column

ID	Name	Q1	Q2	Q3	Q4
001	Jane Doe	1	3	5	2
002	Fred Smith	2	4	4	1
003	Jack Quick	1	3	4	2
004	Sue Mason	1	2	3	2
Frequency (1)		3			
Frequency (2)		1			
Total			12		


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Analysis Step: Interpret Results

- ★ What do data say about PM results?
  - Target met? Explain
  - Big discrepancy (+/-) between target and result?
- ★ What else do data say about your program?
  - Outputs: Are members and program resources being used efficiently?
  - Outcomes: Are program activities effective? Can results be attributed to program effort?

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Analyzing Qualitative Data

- ★ Use open-ended questions when responses are not easy to scale
- ★ Group responses into categories of interest
  - Predetermined categories
  - Emergent categories
- ★ Example: "How will you use information from today's training session?"
  - Improve PMs
  - Improve instruments
  - Improve data collection
  - Improve reports

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Results Example  
Mentoring Adolescent Youth

Output → Intermediate Outcome → End Outcome

Intermediate Outcome  
Indicator: % mentored youth who improve posttest scores on Youth Survey  
Target: 75 percent of mentored youth will improve self-image as demonstrated by 6-point increase on Youth Pre/Post Survey by end of school year.

Data Analysis and Reporting

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Youth Survey (pre/post)

How true of you is each statement?	(Check one box per question.)				
	Not at all true	A little true	Somewhat true	Mostly true	Very true
1. Once I know the rules, I can follow them.	1	2	3	4	5
2. I have talents that I am proud of.	1	2	3	4	5
3. I see myself as a good person.	1	2	3	4	5
4. People see me as a good person.	1	2	3	4	5
5. I can accomplish something once I put my mind to it.	1	2	3	4	5
6. When I make mistakes, I do my best to make things right.	1	2	3	4	5
7. When things don't go as planned, I learn from the experience.	1	2	3	4	5
8. I can put a bad experience behind me and move on.	1	2	3	4	5
9. I rarely do bad things.	1	2	3	4	5
10. I make people smile.	1	2	3	4	5
	10	20	30	40	50

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Youth Survey (pre/post)

How true of you is each statement?	(Check one box per question.)				
	Not at all true	A little true	Somewhat true	Mostly true	Very true
1. Once I know the rules, I can follow them.		2	3		
2. I have talents that I am proud of.			3	4	
3. I see myself as a good person.	1	1			
4. People see me as a good person.	1	2			
5. I can accomplish something once I put my mind to it.			3	4	
6. When I make mistakes, I do my best to make things right.		2	2		
7. When things don't go as planned, I learn from the experience.	1		3		
8. I can put a bad experience behind me and move on.		2		4	
9. I rarely do bad things.	1	1			
10. I make people smile.	1	2			
	17	26			

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Youth Survey: Data Aggregation

Youth	Pretest Score	Posttest Score	Change	Met Target?
Johnny	17	26	+9	Yes
Sally	21	27	+6	Yes
Xuan	33	32	-1	No
Jane	37	45	+8	Yes
Jorge	35	41	+6	Yes
Bob	19	40	+21	Yes
Jamilah	21	30	+9	Yes
Alfredo	25	28	+3	No
Elvis	15	29	+6	Yes
Fatima	25	33	+8	Yes

Total Yes	8 80%
Total No	2 (20%)

Data Analysis and Reporting

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Data Analysis and Reporting

Instructions

1. Go through the five completed surveys, determine how many responses improved from pre to post (Part I to Part II on the survey), and fill in the rest of the Summary Sheet to aggregate the data for analysis.
2. Enter the totals at the bottom of the Summary Sheet.
3. Use the sample reporting statement to fill in the appropriate totals and percentages.

Performance Measurement Resources

<http://nationalservice.gov/resources>

- ★ **Project STAR AmeriCorps tutorials**  
Search: *americorps tutorials*
- ★ **Performance Measurement Builder**  
Search: *performance measurement builder*
- ★ **AmeriCorps Program Applicant Performance Measurement Toolkit**  
Search: *performance measurement toolkit*

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- ★ **Phone:** 800-548-3656
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